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SITE SENSITIVITY VERIFICATION AND AGRICULTURAL COMPLIANCE STATEMENT FOR THE PROPOSED CONSTRUCTION AND OPERATION OF THE 250 MW PATATSKLOOF WIND ENERGY FACILITY (WEF), BATTERY ENERGY STORAGE SYSTEM (BESS), GRID CONNECTION AND ASSOCIATED INFRASTRUCTURE LOCATED NEAR CERES IN THE WESTERN CAPE PROVINCE

Report by
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17 November 2022

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EXECUTIVE SUMMARY

The key findings of this study are:

- The site has very low agricultural potential predominantly because of climate constraints. As a result of the constraints, the site is totally unsuitable for cultivation, and agricultural land use is limited to grazing. The land is predominantly of low agricultural sensitivity, but includes some areas of medium sensitivity.
- Three potential negative agricultural impacts were identified, loss of agricultural land use, land degradation, and the impact of dust, but all are of low significance.
- The recommended mitigation measures are implementation of an effective system of stormwater run-off control; maintenance of vegetation cover; and stripping, stockpiling and re-spreading of topsoil.
- The conclusion of this assessment is that the proposed development will have a low and therefore acceptable negative impact on the agricultural production capability of the site. This is substantiated by the facts that the land is of very limited land capability and is not suitable for the production of cultivated crops, the amount of agricultural land loss is within the allowable development limits prescribed by the agricultural protocol, the proposed development offers some positive impact on agriculture by way of improved financial security for farming operations, as well as wider, societal benefits, and that the proposed development poses a low risk in terms of causing soil degradation.
- From an agricultural impact point of view, it is recommended that the development be approved.

1 INTRODUCTION

Environmental authorisation is being sought for the proposed construction and operation of the 250 MW Patatskloof Wind Energy Facility (WEF), battery energy storage system (BESS), grid connection and associated infrastructure located near Ceres in the Western Cape Province (see location in Figure 1). In terms of the National Environmental Management Act (Act No 107 of 1998 - NEMA), an application for environmental authorisation requires an agricultural assessment. In this case, based on the verified sensitivity of the site, the level of agricultural assessment required is an Agricultural Compliance Statement.

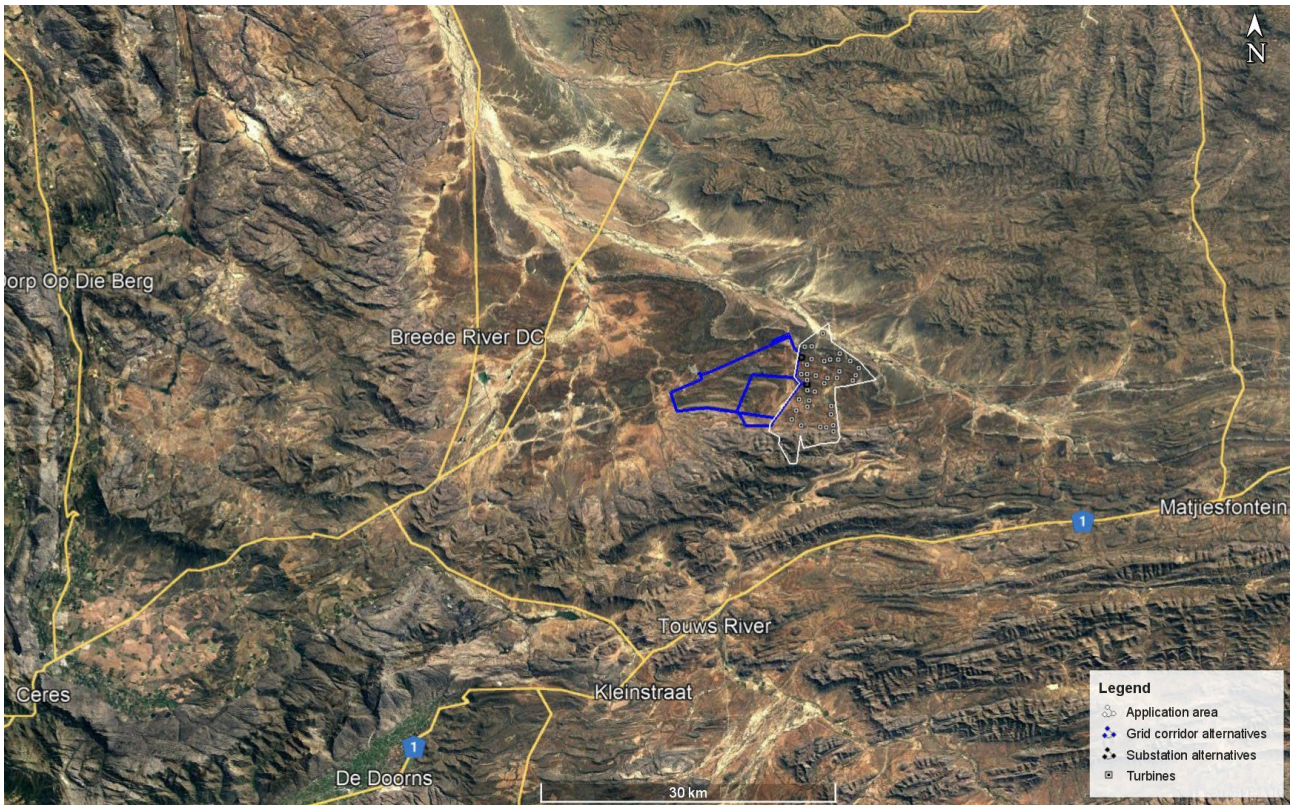

Figure 1. *Locality map of the proposed PV facility, north of the town of Touws River.*

Johann Lanz was appointed as an independent agricultural specialist to conduct the agricultural assessment. The objective and focus of an agricultural assessment is to assess whether or not the proposed development will have an unacceptable agricultural impact, and based on this, to make a recommendation on whether or not it should be approved.

The purpose of the agricultural component in the environmental assessment process is to preserve the agricultural production potential, particularly of scarce arable land, by ensuring that development does not exclude existing or potential agricultural production from such land or impact it to the extent that its future production potential is reduced. However, this project poses very little threat to agricultural production potential because of the small extent of land loss and the site's very low agricultural production potential.

2 PROJECT DESCRIPTION

The proposed facility will consist of the standard infrastructure of a wind energy facility including, up to 35 turbines with foundations; crane pads per turbine; cabling; battery storage; auxiliary buildings; access and internal roads; on-site substation; 132kV grid connection; and temporary construction laydown areas and will have a total generating capacity of up to 250 MW.

The exact nature of the different components making up a wind energy facility has absolutely no bearing on the significance of agricultural impacts and so is unnecessary to detail any further in this assessment. All that is of relevance is simply the layout and extent of the total footprint of the facility that excludes agricultural land use or impacts agricultural land, referred to as the agricultural footprint. Whether that footprint comprises a crane pad, a road or a building is irrelevant to agricultural impact.

Furthermore, in a low agricultural potential environment like the one being assessed, the actual position of the facility and infrastructure in the landscape also has no real bearing on the significance of the agricultural impact.

This assessment includes the power lines of the grid connection. It is important to note that the power lines have a very different level of agricultural impact than the rest of the facility footprint does because agriculture is not excluded from the land underneath a power line. The power line corridor is not therefore considered to be part of the agricultural footprint, in keeping with NEMA's agricultural protocol. The agricultural impact of a power line is insignificant in this environment, regardless of its route and design and the agricultural potential of the land it crosses.

3 TERMS OF REFERENCE

The terms of reference for this study is to fulfill the requirements of the *Protocol for the specialist assessment and minimum report content requirements of environmental impacts on agricultural resources by onshore wind and/or solar photovoltaic energy generation facilities where the electricity output is 20 megawatts or more*, gazetted on 20 March 2020 in GN 320 (in terms of Sections 24(5)(A) and (H) and 44 of NEMA, 1998).

The verified agricultural sensitivity of the site is less than high. The level of agricultural assessment required in terms of the protocol for sites verified as less than high sensitivity is an Agricultural Compliance Statement.

The terms of reference for such an assessment, as stipulated in the protocol, are listed below, and the section number of this report which fulfils each stipulation is given after it in brackets.

1. The Agricultural Compliance Statement must be prepared by a soil scientist or agricultural specialist registered with the South African Council for Natural Scientific Professions (SACNASP).
2. The compliance statement must:
    1. be applicable to the preferred site and proposed development footprint (Figure 2);
    2. confirm that the site is of “low” or “medium” sensitivity for agriculture (Section 7); and
    3. indicate whether or not the proposed development will have an unacceptable impact on the agricultural production capability of the site (Section 10).
3. The Agricultural Compliance Statement must contain, as a minimum, the following information:
    1. details and relevant experience as well as the SACNASP registration number of the soil scientist or agricultural specialist preparing the statement including a curriculum vitae (Appendix 1);
    2. a signed statement of independence by the specialist (Appendix 2);
    3. a map showing the proposed development footprint (including supporting infrastructure) with a 50 m buffered development envelope, overlaid on the agricultural sensitivity map generated by the screening tool (Figure 2);
    4. calculations of the physical development footprint area for each land parcel as well as the total physical development footprint area of the proposed development including supporting infrastructure (Section 9.8);
    5. confirmation that the development footprint is in line with the allowable development limits contained in Table 1 of the protocol (Section 9.8);
    6. confirmation from the specialist that all reasonable measures have been taken through micro-siting to avoid or minimize fragmentation and disturbance of agricultural activities (Section 9.6);
    7. a substantiated statement from the soil scientist or agricultural specialist on the acceptability, or not, of the proposed development and a recommendation on the approval, or not of the proposed development (Section 10);
    8. any conditions to which this statement is subjected (Section 10);
    9. in the case of a linear activity, confirmation from the agricultural specialist or soil scientist, that in their opinion, based on the mitigation and remedial measures proposed, the land can be returned to the current state within two years of completion of the construction phase (Section 9.7);
    10. where required, proposed impact management outcomes or any monitoring requirements for inclusion in the EMPr (Section 9.9); and
    11. a description of the assumptions made and any uncertainties or gaps in knowledge or data (Section 5).

4 METHODOLOGY OF STUDY

As per the protocol requirement, the assessment was based on a desktop analysis of existing soil and agricultural potential data for the site. A site investigation was not considered necessary for this assessment, including for the site sensitivity verification. This is because the land capability limitation is predominantly a function of climate, which cannot be usefully informed by a site assessment.

The following sources of existing information were used:

- Soil data was sourced from the land type data set, of the Department of Agriculture, Forestry and Fisheries (DAFF). This data set originates from the land type survey that was conducted from the 1970's until 2002. It is the most reliable and comprehensive national database of soil information in South Africa and although the data was collected some time ago, it is still entirely relevant as the soil characteristics included in the land type data do not change within time scales of hundreds of years.
- Land capability data was sourced from the 2017 National land capability evaluation raster data layer produced by the DAFF, Pretoria.
- Field crop boundaries were sourced from Crop Estimates Consortium, 2019. *Field Crop Boundary data layer, 2019*. Pretoria. Department of Agriculture, Forestry and Fisheries.
- Rainfall and evaporation data was sourced from the SA Atlas of Climatology and Agrohydrology (2009, R.E. Schulze) available on Cape Farm Mapper.
- Grazing capacity data was sourced from the 2018 DAFF long-term grazing capacity map for South Africa, available on Cape Farm Mapper.
- Satellite imagery of the site and surrounds was sourced from Google Earth.

5 ASSUMPTIONS, UNCERTAINTIES OR GAPS IN KNOWLEDGE OR DATA

The study makes the assumption that sufficient water for irrigation is not available in the study area. This is based on the assumption that a long history of farming experience in an area will result in the exploitation of viable water sources if they exist, and none have been exploited in the study area.

There are no other specific assumptions, uncertainties or gaps in knowledge or data that affect the findings of this study.

6 APPLICABLE LEGISLATION AND PERMIT REQUIREMENTS

A renewable energy facility requires approval from the National Department of Agriculture, Land

Reform and Rural Development (DALRRD) if the facility is on agriculturally zoned land. There are two approvals that apply. The first is a No Objection Letter for the change in land use. This letter is one of the requirements for receiving municipal rezoning. It is advisable to apply for this as early in the development process as possible because not receiving this DALRRD approval is a fatal flaw for a project. Note that a positive EA does not assure DALRRD's approval of this. This application requires a motivation backed by good evidence that the development is acceptable in terms of its impact on the agricultural production potential of the development site. This assessment report will serve that purpose.

The second required approval is a consent for long-term lease in terms of the Subdivision of Agricultural Land Act (Act 70 of 1970) (SALA). If DALRRD approval for the development has already been obtained in the form of the No Objection letter, then SALA approval should not present any difficulties. Note that SALA approval is not required if the lease is over the entire farm portion. SALA approval (if required) can only be applied for once the Municipal Rezoning Certificate and Environmental Authorisation has been obtained.

Power lines require the registration of a servitude for each farm portion crossed. In terms of the Subdivision of Agricultural Land Act (Act 70 of 1970) (SALA), the registration of a power line servitude requires written consent of the Minister unless either of the following two conditions apply:

- if the servitude width does not exceed 15 metres; and
- if Eskom is the applicant for the servitude.

If one or both of these conditions apply, then no agricultural consent is required. The second condition is likely to apply, even if another entity gets Environmental Authorisation for and constructs the power line, but then hands it over to Eskom for its operation. Eskom is currently exempt from agricultural consent for power line servitudes.

Rehabilitation after disturbance to agricultural land is managed by the Conservation of Agricultural Resources Act (Act 43 of 1983 - CARA). A consent in terms of CARA is required for the cultivation of virgin land. Cultivation is defined in CARA as "any act by means of which the topsoil is disturbed mechanically". The purpose of this consent for the cultivation of virgin land is to ensure that only land that is suitable as arable land is cultivated. Therefore, despite the above definition of cultivation, disturbance to the topsoil that results from construction of infrastructure does not constitute cultivation as it is understood in CARA. This has been corroborated by Anneliza Collett (Acting Scientific Manager: Natural Resources Inventories and Assessments in the Directorate: Land and Soil Management of the Department of Agriculture, Land Reform and Rural Development (DALRRD)). The construction and operation of the facility will therefore not require consent from the Department of Agriculture, Land Reform and Rural Development in terms of this provision of

CARA.

7 SITE SENSITIVITY VERIFICATION

In terms of the gazetted agricultural protocol, a site sensitivity verification must be submitted that:

1. confirms or disputes the current use of the land and the environmental sensitivity as identified by the screening tool, such as new developments or infrastructure, the change in vegetation cover or status etc.;
2. contains a motivation and evidence (e.g. photographs) of either the verified or different use of the land and environmental sensitivity.

Agricultural sensitivity is a direct function of the capability of the land for agricultural production. All arable land that can support viable crop production, is classified as high (or very high) sensitivity. This is because there is a scarcity of arable production land in South Africa and its conservation for agricultural use is therefore a priority. Land which cannot support viable crop production is much less of a priority to conserve for agricultural use, and is rated as medium or low agricultural sensitivity.

The screening tool classifies agricultural sensitivity according to only two independent criteria – the land capability rating and whether the land is used for cropland or not. All cropland is classified as at least high sensitivity, based on the logic that if it is under crop production, it is indeed suitable for it, irrespective of its land capability rating.

The screening tool sensitivity categories in terms of land capability are based upon the Department of Agriculture's updated and refined, country-wide land capability mapping, released in 2016. The data is generated by GIS modelling. Land capability is defined as the combination of soil, climate and terrain suitability factors for supporting rain fed agricultural production. It is an indication of what level and type of agricultural production can sustainably be achieved on any land, based on its soil, climate and terrain. The higher land capability values (≥8 to 15) are likely to be suitable as arable land for crop production, while lower values are only likely to be suitable as non-arable grazing land.

A map of the proposed development area overlaid on the screening tool sensitivity is given in Figure 2. There is only one small isolated patch of land within the application properties that is classified as cultivated land and therefore given high agricultural sensitivity (red in Figure 2). However, across all buildable areas, agricultural sensitivity is purely a function of land capability. The land capability of the site on the screening tool is predominantly 5, but varies from 1 to 7. Values of 1 to 5 translate to a low agricultural sensitivity, and values of 6 to 7 translate to a medium agricultural sensitivity.

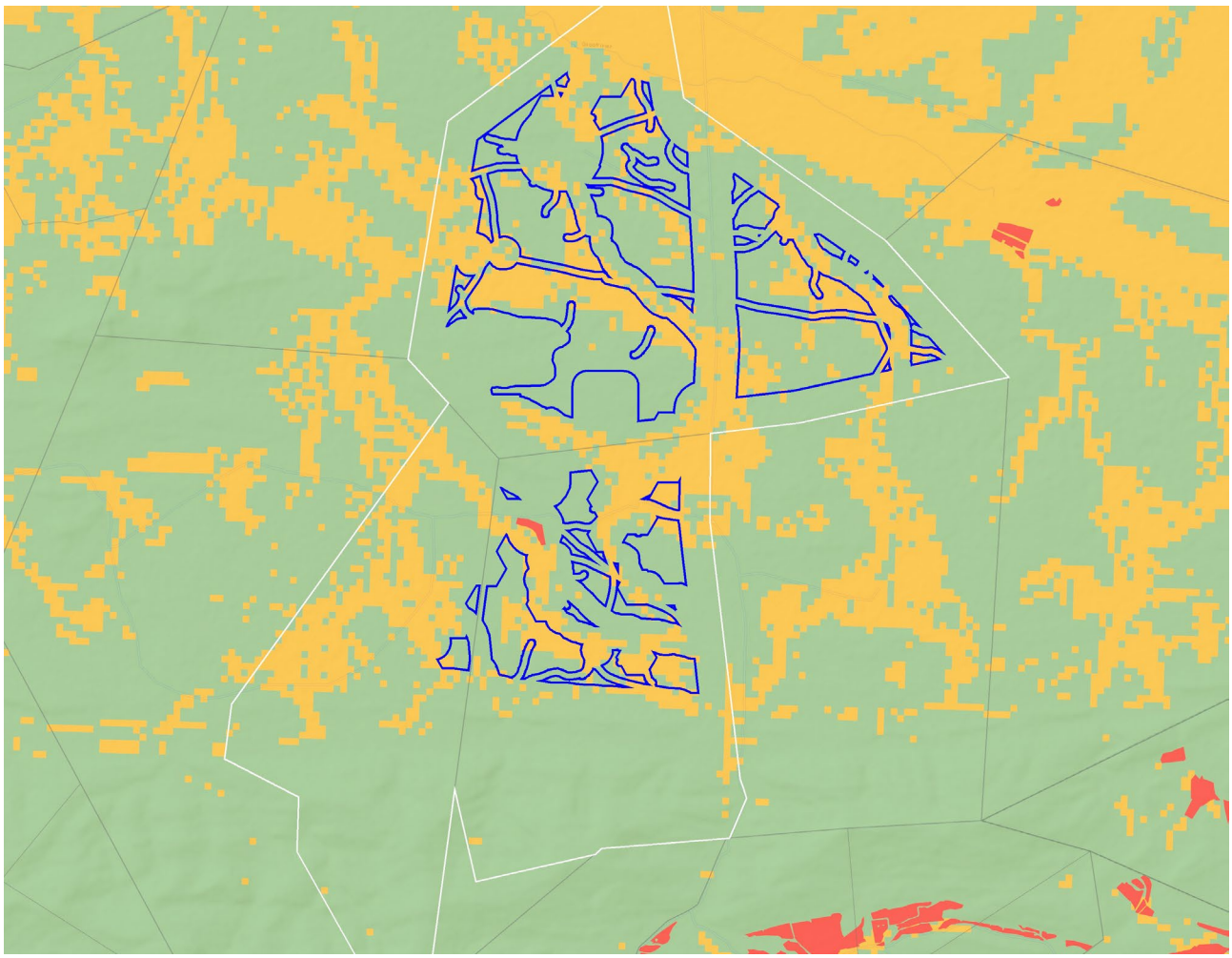

Figure 2. *The proposed buildable areas for the facility (blue outlines), overlaid on agricultural sensitivity, as given by the screening tool (green = low; yellow = medium; red = high). Note that the overhead power line corridors are not included because their agricultural sensitivity is of no relevance to an assessment of their agricultural impact (see below).*

The small scale differences in land capability across the project area are not very significant and are more a function of how the land capability data is generated by modelling, than actual meaningful differences in agricultural potential on the ground.

The buildable areas are predominantly on land of low agricultural sensitivity. Only a small proportion is on land of medium agricultural sensitivity and none of it falls on any land higher than medium.

The sensitivity attributed to the site by the screening tool is confirmed by this assessment. The motivation for confirming the sensitivity is predominantly that the climate data (low rainfall of approximately 250 mm per annum and high evaporation of approximately 1,450 mm per annum) proves the area to be arid, and therefore of limited land capability. In addition, the land type data

shows the dominant soils to be shallow, sandy soils on underlying rock or hard-pan carbonate. A predominantly low agricultural sensitivity is entirely appropriate for this land which is unsuitable for crop production.

This site sensitivity verification verifies the entire buildable area as being of low to medium agricultural sensitivity. The required level of agricultural assessment is therefore confirmed as an Agricultural Compliance Statement.

Note that the verification of agricultural sensitivity of the power line route has very little relevance to this assessment. It is important to recognise that the agricultural sensitivity of land, in terms of a particular development, is not only a function of the screening tool sensitivity, which equates to agricultural potential, but is also a function of the severity of the impact which that development poses to agriculture. This is not recognised in the screening tool classification of sensitivity and is therefore a limitation to that sensitivity. This is relevant for transmission lines, because their agricultural impact is usually negligible (see impact assessment section), regardless of the agricultural sensitivity of the land which they traverse. Therefore, in the context of overhead power lines, almost no land can be considered to have high agricultural sensitivity.

8 AGRICULTURAL LAND USE

Grazing of both sheep and game is the dominant agricultural land use in the area. Grazing capacity of the site is very low at 70 hectares per large stock unit. There is almost no cultivation in the area and what there is, is confined to small, isolated patches of land along water courses.

9 ASSESSMENT OF AGRICULTURAL IMPACT

9.1 General

The focus and defining question of an agricultural impact assessment is to determine to what extent a proposed development will compromise (negative impacts) or enhance (positive impacts) current and/or potential future agricultural production. The significance of an impact is therefore a direct function of the degree to which that impact will affect current or potential future agricultural production. If there will be no impact on production, then there is no agricultural impact. Impacts that degrade the agricultural resource base, pose a threat to production and therefore are within the scope of an agricultural impact assessment.

The exact nature of the different infrastructure within a development has very little bearing on the significance of agricultural impacts. Whether the footprint comprises a turbine, a road or a substation is largely irrelevant to agricultural impact. Furthermore, in a low agricultural potential environment like the one being assessed, the detail of the design layout also has very little bearing

on the significance of the impacts What is of most relevance is simply the total footprint of the facility that excludes agricultural land use or impacts agricultural land.

It is also important to consider the scale at which the significance of an impact is assessed. An agricultural impact equates to a temporary or permanent change in agricultural production potential of the land. The change in production potential of a farm or significant part of a farm will obviously always be highly significant at the scale of that farm, but may be much less so at larger scales. This assessment considers a regional and national scale to be the most appropriate one for assessing the significance of the loss of agricultural production potential.

9.2 Impact identification and discussion

Three potential negative agricultural impacts have been identified, that are direct impacts:

1. **Loss of agricultural potential by occupation of land** - Agricultural land directly occupied by the development infrastructure will become unavailable for agricultural use, with consequent potential loss of agricultural productivity and employment. This impact is relevant only in the construction phase. No further loss of agricultural land use occurs in subsequent phases.

2. **Loss of agricultural potential by soil degradation –** This impact only becomes relevant once the land is returned to agricultural land use after decommissioning. Soil can be degraded by impacts in three different ways: erosion; topsoil loss; and contamination. Erosion can occur as a result of the alteration of the land surface run-off characteristics, which can be caused by construction related land surface disturbance, vegetation removal, and the establishment of hard surface areas including roads. Loss of topsoil can result from poor topsoil management during construction related excavations. Hydrocarbon spillages from construction activities can contaminate soil. Soil degradation will reduce the ability of the soil to support vegetation growth. This impact occurs only during the construction and decommissioning phases. The site is likely to have a high susceptibility to soil erosion, but erosion can be completely managed with an effective erosion management plan.

3. **Dust impact** – The disturbance of the soil surface, particularly during construction, will generate dust that can negatively impact surrounding veld and farm animals.

One positive agricultural impact has been identified, that is an indirect impact:

1. **Enhanced agricultural potential through increased financial security for farming operations -** Reliable income will be generated through the lease of the land to the energy facility. This is likely to increase cash flow and financial security of land owners and could

improve farming operations and productivity through increased investment into farming.

The overhead power lines have negligible agricultural impact because all agricultural activities that are viable in this environment, can continue completely unhindered underneath power lines. This includes a service track under the power line which will also have minimal impact. The direct, permanent, physical footprint of a power line that has any potential to interfere with agriculture, is of very limited extent and therefore entirely insignificant within this agricultural environment of large farms utilised only for low density grazing.

9.3 Cumulative impacts

The cumulative impact of a development is the impact that development will have when its impact is added to the incremental impacts of other past, present or reasonably foreseeable future activities that will affect the same environment. It is important to note that the cumulative impact assessment for a particular project, like what is being done here, is not the same as an assessment of the impact of all surrounding projects. The cumulative assessment for this project is an assessment only of the impacts associated with this project, but seen in the context of all surrounding impacts. It is concerned with this project's contribution to the overall impact, within the context of the overall impact. But it is not simply the overall impact itself.

The most important concept related to cumulative impact is that of an acceptable level of change to an environment. A cumulative impact only becomes relevant when the impact of the proposed development will lead directly to the sum of impacts of all developments causing an acceptable level of change to be exceeded in the surrounding area. If the impact of the development being assessed does not cause that level to be exceeded, then the cumulative impact associated with that development is not significant.

The potential cumulative agricultural impact of importance is a regional loss (including by degradation) of agricultural land, with a consequent decrease in agricultural production. The defining question for assessing the cumulative agricultural impact is this:

> What level of loss of agricultural land use and associated loss of agricultural production is acceptable in the area, and will the loss associated with the proposed development, when considered in the context of all past, present or reasonably foreseeable future impacts, cause that level in the area to be exceeded?

DFFE requires compliance with a specified methodology for the assessment of cumulative impacts. This is positive in that it ensures engagement with the important issue of cumulative impacts. However, the required compliance has some limitations and can, in the opinion of the author, result in an over-focus on methodological compliance, while missing the more important task of

effectively answering the above defining question.

DFFE compliance for this project requires considering all renewable energy projects within a 30 km radius. There are 11 such other renewable energy projects (see Appendix 3).

In quantifying the cumulative impact, the area of land taken out of grazing as a result of these 11 projects plus this one, (total generation capacity of 1,867 MW) will amount to a total of approximately 1,475 hectares. This is calculated using the industry standards of 2.5 and 0.3 hectares per megawatt for solar and wind energy generation respectively, as per the Department of Environmental Affairs (DEA) Phase 1 Wind and Solar Strategic Environmental Assessment (SEA) (2015). As a proportion of the total area within a 30km radius (approximately 282,700 ha), this amounts to only 0.52% of the surface area. That is considered to be within an acceptable limit in terms of loss of agricultural land that is only suitable for grazing, of which there is no scarcity in the country. This is particularly so when considered within the context of the following point:

In order for South Africa to achieve its renewable energy generation goals, agriculturally zoned land will need to be used for renewable energy generation. It is far more preferable to incur a cumulative loss of agricultural land in a region such as the one being assessed, which has no cultivation potential, than to lose agricultural land that has a higher potential, and that is much scarcer, to renewable energy development elsewhere in the country. The limits of acceptable agricultural land loss are far higher in this region than in regions with higher agricultural potential.

Because the power line component leads to negligible agricultural land loss, its cumulative impact must also logically be negligible. It therefore does not make sense to conduct a more formal assessment of cumulative power line impacts as per DFFE requirements. Many times more power lines than currently exists, or are currently proposed, can be accommodated before acceptable levels of change in terms of agricultural land loss are exceeded. Acceptable levels of change in terms of other types of impact, for example visual impact, would be exceeded long before the levels for agricultural impact became an issue. In reality the landscape in this environment could be covered with power lines and agricultural production would continue, largely unaffected.

As discussed above, the risk of a loss of agricultural potential by soil degradation is low because it can effectively be mitigated for renewable energy developments. If the risk for each individual development is low, then the cumulative risk is also low.

Furthermore, there are no significant other land uses, apart from renewable energy, that are competing for agricultural land in the area, and so the total cumulative loss of agricultural land from all competing land uses is not significantly higher than what has been considered above.

Due to all of the considerations discussed above, the cumulative impact of loss of agricultural land

use will not have an unacceptable negative impact on the agricultural production capability of the area. The proposed development is therefore acceptable in terms of cumulative impact, and it is therefore recommended that it is approved.

9.4 Impacts of the no-go alternative

The no-go alternative considers impacts that will occur to the agricultural environment in the absence of the proposed development. The one identified potential impact is that due to continued low rainfall in the area, which is likely to be exacerbated by climate change, agriculture in the area will come under increased pressure in terms of economic viability.

The development offers an additional income source to agriculture, without excluding agriculture from the land. Therefore, the negative agricultural impact of the no-go alternative is more significant than that of the development, and so, purely from an agricultural impact perspective, the proposed development is the preferred alternative between the development and the no-go.

9.5 Comparative assessment of alternatives

Design and layout alternatives and technology alternatives within the buildable area, as well as alternative overhead power line corridors, will make absolutely no material difference to the significance of the agricultural impacts, because of the relative uniformity of agricultural potential across the site and because it is the total footprint size that determines the impact significance. Any alternative layout within the buildable area is considered acceptable and all overhead power line corridors are considered acceptable.

9.6 Micro-siting to minimize fragmentation and disturbance of agricultural activities

The agricultural protocol requires confirmation that all reasonable measures have been taken through micro-siting to minimize fragmentation and disturbance of agricultural activities. However, the agricultural uniformity and lack of suitability for cultivation of the site, mean that the exact positions of all infrastructure will not make any material difference to agricultural impacts.

9.7 Confirmation of linear activity impact

The protocol provision of a linear impact confirmation only makes sense when the requirement for an Agricultural Compliance Statement is based on the fact that the development is a linear activity. In this case the verified low and medium agricultural sensitivity determines that an Agricultural Compliance Statement suffices anyway, even for non-linear activities.

9.8 Impact footprint

The agricultural protocol stipulates allowable development limits for renewable energy developments of > 20 MW. Allowable development limits refer to the area of a particular agricultural sensitivity category that can be directly impacted (i.e. taken up by the physical footprint) by a renewable energy development. The agricultural footprint is defined in the protocol as the area that is directly occupied by all infrastructures, including roads, hard standing areas, buildings etc., that are associated with the renewable energy facility during its operational phase, and that result in the exclusion of that land from potential cultivation or grazing. It excludes all areas that were already occupied by roads and other infrastructure prior to the establishment of the energy facility but includes the surface area required for expanding existing infrastructure (e.g. widening existing roads). It therefore represents the total land that is actually excluded from agricultural use as a result of the renewable energy facility.

The allowable development limit on land of less than high agricultural sensitivity, as this site has been verified to be, is 2.5 ha per MW. This would allow a 250 MW facility to occupy 625 hectares. This is designed to allow solar PV developments on such land. Solar PV developments have agricultural footprints that are typically eight times the size of wind farm ones. It can therefore be confirmed that the agricultural footprint of this development will be well within the allowable limit. It will in fact be approximately eight times smaller than what the development limits allow.

9.9 Mitigation measures

Mitigation measures to prevent soil degradation are all inherent in the project design and / or are standard, best-practice for construction sites.

- A system of storm water management, which will prevent erosion, will be an inherent part of the engineering on site. Any occurrences of erosion must be attended to immediately and the integrity of the erosion control system at that point must be amended to prevent further erosion from occurring there.
- Any excavations done during the construction phase, in areas that will be re-vegetated at the end of the construction phase, must separate the upper 30 cm of topsoil from the rest of the excavation spoils and store it in a separate stockpile. When the excavation is back-filled, the topsoil must be back-filled last, so that it is at the surface. Topsoil should only be stripped in areas that are excavated. Across the majority of the site, including construction lay down areas, it will be much more effective for rehabilitation, to retain the topsoil in place. If levelling requires significant cutting, topsoil should be temporarily stockpiled and then re-spread after cutting, so that there is a covering of topsoil over the entire cut surface. ***Solar*** It will be advantageous to have topsoil and vegetation cover below the

panels during the operational phase to control dust and erosion.

For the grid infrastructure, there are no additional mitigation measures required, over and above what has already been included in the Generic Environmental Management Programmes (EMPr's) For The Development And Expansion For Overhead Electricity Transmission And Distribution Infrastructure and Of Substation Infrastructure For The Transmission And Distribution Of Electricity as per Government Notice 435, which was published in Government Gazette 42323 on 22 March 2019.

9.10 Impact assessment

An Agricultural Compliance Statement is not required to formally rate agricultural impacts. It is only required to indicate whether or not the proposed development will have an unacceptable impact on the agricultural production capability of the site. Nevertheless, the agricultural impact of this proposed development is assessed here as being of low significance because of both the small area of impacted land and the low agricultural capability of that land.

10 CONCLUSIONS

The site has very low agricultural potential predominantly because of climate constraints. As a result of the constraints, the site is totally unsuitable for cultivation, and agricultural land use is limited to grazing. The land is predominantly of low agricultural sensitivity, but includes some areas of medium sensitivity.

Three potential negative agricultural impacts were identified, loss of agricultural land use, land degradation, and the impact of dust, but all are of low significance.

The recommended mitigation measures are implementation of an effective system of stormwater run-off control; maintenance of vegetation cover; and stripping, stockpiling and re-spreading of topsoil.

The conclusion of this assessment is that the proposed development will have a low and therefore acceptable negative impact on the agricultural production capability of the site. This is substantiated by the facts that the land is of very limited land capability and is not suitable for the production of cultivated crops, the amount of agricultural land loss is within the allowable development limits prescribed by the agricultural protocol, the proposed development offers some positive impact on agriculture by way of improved financial security for farming operations, as well as wider, societal benefits, and that the proposed development poses a low risk in terms of causing soil degradation.

From an agricultural impact point of view, it is recommended that the development be approved.

The conclusion of this assessment on the acceptability of the proposed development and the recommendation for its approval is not subject to any conditions, other than recommended mitigation.

11 ADDENDUM TO REPORT: BUILDABLE AREA

Since completing the above report the developer has defined a buildable area, based on the sensitivities supplied by all the specialists. A map of the buildable area overlaid on agricultural sensitivity is shown in Figure 2. It is hereby confirmed that the buildable area avoids all agricultural no-go areas. It is further confirmed that the buildable area does not change the assessed significance of the agricultural impact and that, from an agricultural impact point of view, it is recommended that the development within the buildable area be approved.

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APPENDIX 1: SPECIALIST CURRICULUM VITAE

Johann Lanz
Curriculum Vitae

Education

M.Sc. (Environmental Geochemistry)	University of Cape Town	1996 - 1997
B.Sc. Agriculture (Soil Science, Chemistry)	University of Stellenbosch	1992 - 1995
BA (English, Environmental & Geographical Science)	University of Cape Town	1989 - 1991
Matric Exemption	Wynberg Boy's High School	1983

Professional work experience

I have been registered as a Professional Natural Scientist (Pri.Sci.Nat.) in the field of soil science since 2012 (registration number 400268/12) and am a member of the Soil Science Society of South Africa.

Soil & Agricultural Consulting **Self employed** **2002 - present**

Within the past 5 years of running my soil and agricultural consulting business, I have completed more than 170 agricultural assessments (EIAs, SEAs, EMPRs) in all 9 provinces for renewable energy, mining, electrical grid infrastructure, urban, and agricultural developments. I was the appointed agricultural specialist for the nation-wide SEAs for wind and solar PV developments, electrical grid infrastructure, and gas pipelines. My regular clients include: Zutari; CSIR; SiVEST; SLR; WSP; Arcus; SRK; Environamics; Royal Haskoning DHV; ABO; Enertrag; WKN-Windcurrent; JG Afrika; Mainstream; Redcap; G7; Mulilo; and Tiptrans. Recent agricultural clients for soil resource evaluations and mapping include Cederberg Wines; Western Cape Department of Agriculture; Vogelfontein Citrus; De Grendel Estate; Zewenwacht Wine Estate; and Goedgedacht Olives.

In 2018 I completed a ground-breaking case study that measured the agricultural impact of existing wind farms in the Eastern Cape.

Soil Science Consultant **Agricultural Consultors International (Tinie du Preez)** **1998 - 2001**

Responsible for providing all aspects of a soil science technical consulting service directly to clients in the wine, fruit and environmental industries all over South Africa, and in Chile, South America.

Contracting Soil Scientist **De Beers Namaqualand Mines** **July 1997 - Jan 1998**

Completed a contract to advise soil rehabilitation and re-vegetation of mined areas.

Publications

- Lanz, J. 2012. Soil health: sustaining Stellenbosch's roots. In: M Swilling, B Sebitosi & R Loots (eds). *Sustainable Stellenbosch: opening dialogues*. Stellenbosch: SunMedia.
- Lanz, J. 2010. Soil health indicators: physical and chemical. *South African Fruit Journal*, April / May 2010 issue.
- Lanz, J. 2009. Soil health constraints. *South African Fruit Journal*, August / September 2009 issue.
- Lanz, J. 2009. Soil carbon research. *AgriProbe*, Department of Agriculture.
- Lanz, J. 2005. Special Report: Soils and wine quality. *Wineland Magazine.*

I am a reviewing scientist for the *South African Journal of Plant and Soil*.

environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

APPENDIX 2: DETAILS OF THE SPECIALIST, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

	(For official use only)
File Reference Number:	
NEAS Reference Number:	DEA/EIA/
Date Received:	

Application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

PROJECT TITLE

THE PROPOSED CONSTRUCTION AND OPERATION OF THE 250 MW PATATSKLOOF WIND ENERGY FACILITY AND ASSOCIATED INFRASTRUCTURE LOCATED NEAR CERES IN THE WESTERN CAPE PROVINCE

Kindly note the following:

- This form must always be used for applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting where this Department is the Competent Authority.
- This form is current as of 01 September 2018. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at https://www.environment.gov.za/documents/forms.
- A copy of this form containing original signatures must be appended to all Draft and Final Reports submitted to the department for consideration.
- All documentation delivered to the physical address contained in this form must be delivered during the official Departmental Officer Hours which is visible on the Departmental gate.
- All EIA related documents (includes application forms, reports or any EIA related submissions) that are faxed; emailed; delivered to Security or placed in the Departmental Tender Box will not be accepted, only hardcopy submissions are accepted.

Departmental Details

Postal address: Department of Environmental Affairs, Attention: Chief Director: Integrated Environmental Authorisations, Private Bag X447, Pretoria, 0001
Physical address: Department of Environmental Affairs, Attention: Chief Director: Integrated Environmental Authorisations, Environment House, 473 Steve Biko Road, Arcadia

Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at:
Email: EIAAdmin@environment.gov.za

1. SPECIALIST INFORMATION

Specialist Company Name:	Johann Lanz – Soil Scientist			
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	4	Percentage Procurement recognition	100%
Specialist name:	Johann Lanz			
Specialist Qualifications:	M.Sc. (Environmental Geochemistry)			
Professional affiliation/registration:	Registered Professional Natural Scientist (Pr.Sci.Nat.) Reg. no. 400268/12 Member of the Soil Science Society of South Africa			
Physical address:	1a Wolfe Street, Wynberg, Cape Town, 7800			
Postal address:	1a Wolfe Street, Wynberg, Cape Town, 7800			
Postal code:	7800	Cell:	082 927 9018	
Telephone:	082 927 9018	Fax:	Who still uses a fax? I don't	
E-mail:	johann@johannlanz.co.za			

2. DECLARATION BY THE SPECIALIST

I, **Johann Lanz**, declare that –

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

Signature of the Specialist

Johann Lanz – Soil Scientist (sole proprietor)

Name of Company:

Date 15/11/2022

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, **Johann Lanz**, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.

Signature of the Specialist

Johann Lanz – Soil Scientist (sole proprietor)

Name of Company

15/11/2022

Date

7161376 NTSHIDI

Signature of the Commissioner of Oaths

2022-11-15

Date

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STATION WYNBERG
CSC
15 NOV 2022
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STATION WYNBERG
SOUTH AFRICAN POLICE SERVICE

APPENDIX 3: PROJECTS CONSIDERED FOR CUMULATIVE IMPACT ASSESSMENT

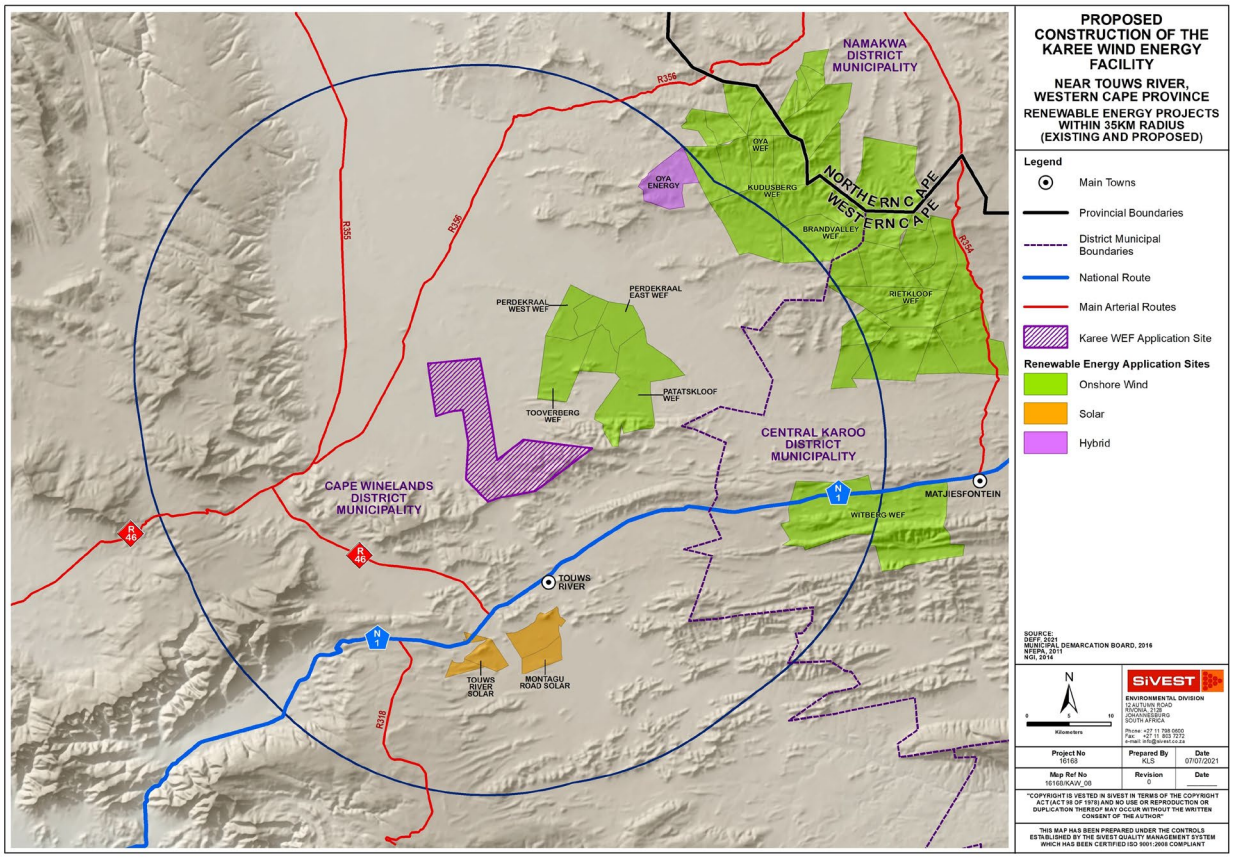

Figure 3. *Projects considered for cumulative impact assessment.*

Table 1: Projects considered for cumulative impact assessment.

Applicant	Project	Technology	Capacity	Status of Application / Development
Oya Energy (Pty) Ltd	Oya Energy Facility	Hybrid (Solar / Fuel-Based)	305MW	EIA Process underway
Brandvalley Wind Farm (Pty) Ltd	Brandvalley WEF	Wind	140MW	Approved
Kudusberg Wind Farm (Pty) Ltd	Kudusberg WEF	Wind	325W	Approved
South Africa Mainstream Renewable Power Perdekraal West (Pty) Ltd	Perdekraal West WEF & Associated Grid Connection Infrastructure	Wind	150M	Approved
South Africa Mainstream Renewable Power Perdekraal East (Pty) Ltd	Perdekraal East WEF & Associated Grid Connection Infrastructure	Wind	110MW	Operational
South Africa Mainstream Renewable Power Developments (Pty) Ltd	Patatskloof WEF	Wind	140MW	EIA Process underway
Rietkloof Wind Farm (Pty) Ltd	Rietkloof WEF	Wind	1866MW	Approved
ENERTRAG SA (Pty) Ltd	Tooverberg WEF & Associated Grid Connection Infrastructure	Wind	140MW	Approved
Witberg Wind Power (Pty) Ltd	Witberg WEF	Wind	120MW	Approved
Montgue Road Solar (Pty) Ltd	Montgue Road Solar	Solar PV	75MW	Approved
Touwsrivier Solar	Touwsrivier Solar	Solar PV	36MW	Approved